

FINAL REPORT

Marine Endangered Species Monitoring Program
Bean Dredging
Savannah District

Maintenance Dredging
Brunswick Harbor, Georgia

Dates: 10 January 2004 – 06 March 2004



Submitted by:

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ABSTRACT

A twenty-four hour per day marine endangered species monitoring program was conducted onboard both the hopper dredge *Eagle I* (10 January through 06 March 2004) and *Stuyvesant* (14 January through 01 February 2004) during the Brunswick Harbor, Georgia maintenance dredging project. Endangered and threatened sea turtles *Caretta caretta* (loggerhead), *Chelonia mydas* (green), *Lepidochelys kempii* (Kemp's ridley), *Dermochelys coriacea* (leatherback) and *Eretmochelys imbricata* (hawksbill) as well as the *Eubalaena glacialis* (Northern Right Whale) were the species targeted. A total of nine (9) *Eubalaena glacialis* (Northern Right Whale) were documented around the project area. No incidents of sea turtle/whale injury or fatality were detected as result of dredge activity.

INTRODUCTION

The REMSA Inc. Marine Endangered Species Observer Division was subcontracted by *Bean Dredging* in the Savannah District to monitor the impact of dredging on endangered sea turtle and whale species in the area of the dredge operation. Pursuant to agreements with the National Marine Fisheries Service (NMFS), four certified observers, two on each dredge were required onboard during the months of prime sea turtle and northern right whale calving ground activity for that area to document any detected incidents involving target species.

SCOPE OF WORK

REMSA provided the necessary trained personnel and equipment to clean and monitor inflow screens onboard the hopper dredges *Eagle I* and *Stuyvesant* for the necessary reports. Monitoring was performed 24 hours each day starting with the dredge *Eagle I* (10 January through 06 March 2004) along with the dredge *Stuyvesant* (14 January through 01 February 2004) to complete the dredge maintenance project. Observers inspected and cleaned all inflow and overflow screens, and inspected both dragheads each time they were brought on deck for cleaning and maintenance. Any death or injury involving target species, the Loggerhead turtle (*Caretta caretta*), Green turtle (*Chelonia mydas*), Kemp's ridley turtle (*Lepidochelys kempii*), Leatherback turtle (*Dermochelys coriacea*), Hawksbill turtle (*Eretmochelys imbricata*), and Northern Right Whale (*Eubalaena glacialis*) were to be identified, logged, measured, and photographed. A load sheet was completed for each load whether or not turtle parts were found. In the case of an incident or take involving a sea turtle or whale, incident report forms were to be completed and the observers are to contact NMFS and the ACOE within twenty-four hours of the incident. Daylight bridge watch was conducted during periods when the observer was not occupied with screen cleaning duties to observe for any whales in the project area. Observers ensured that dredge crew personnel were aware of the need to avoid incidents involving any endangered animal, and that civil and criminal penalties are possible for harming or harassing endangered species.

METHODS

Dredge coverage began when the observers arrived onboard the *Eagle I* (10 January through 06 March 2004) and the *Stuyvesant* (14 January through 01 February 2004) in Brunswick Harbor, Georgia. Two certified observers were present during prime sea turtle and northern right whale activity working 12 hour shifts.

Both Dredges *Eagle I* and *Stuyvesant* functioned with 100% inflow screening with sea turtle draghead deflectors being used. The screening baskets were fitted with 4" x 4" screening material to insure that parts of targeted species would not be allowed to flow through into the hopper. All dragheads and screening baskets were checked after each load of the observers 12-hour shift. The appropriate forms were filled out, noting any incidents or sightings regarding targeted species as well as the marine life present in the inflow and overflow boxes.

A bridge lookout for northern right whales (*Eubalaena glacialis*) was maintained during those daylight hours that the observer was not on deck checking screens. An alphanumeric pager was given by Florida Fish and Wildlife Conservation Commission and used by the observers on dredge *Eagle I* to relay any right whale sightings off the coastlines of Florida and southern Georgia.

RESULTS

There were no reported sea turtle incidents during the monitoring project in Brunswick Harbor, Georgia. A total of nine (9) northern right whale (*Eubalaena glacialis*) sightings (4 on dredge *Eagle I*; 5 on dredge *Stuyvesant*) were reported during the daylight bridge watches conducted by the observer (Appendix 1). Below is a list of sightings reported during the Brunswick Harbor Deepening Channel, Georgia project:

Sighting 1: 14 Jan 04- 1 <i>Eg</i>	(<i>Eagle I</i> - load# 37,)
Sighting 2: 18 Jan 04- 1 adult, 1 calf	(<i>Eagle I</i> - load# 66, 1725)
Sighting 3: 18 Jan 04- 1 adult, 1 calf	(<i>Stuyvesant</i> - load# 28, 1606)
Sighting 4: 27 Jan 04- 2 adults	(<i>Stuyvesant</i> - load# 80, 1404)
Sighting 5: 29 Jan 04- 2 <i>Eg</i>	(<i>Stuyvesant</i> - load# 87, 1415)
Sighting 6: 29 Jan 04- 2 <i>Eg</i>	(<i>Stuyvesant</i> - load# 88, 1625)
Sighting 7: 30 Jan 04- 1 <i>Eg</i>	(<i>Stuyvesant</i> - load# 98, 1420)
Sighting 8: 04 Feb 04- 1 adult, 1calf	(<i>Eagle I</i> - load# 224, 1457)
Sighting 9: 13 Feb 04- 1 <i>Eg</i>	(<i>Eagle I</i> - load# 319, 1245)

During the daylight hours, the dredge operator took necessary precautions to avoid whales. If whales were reported within 15nm of the vessel's path in 24 hours of the whale sighting during evening hours or when there was limited visibility due to fog or sea states (greater than Beaufort 3), the dredge slowed their speed to 5 kts or less when transiting between areas. All sightings were reported through the right whale communication network (pager-southeast Georgia/Florida) as well as direct sighting information (ships VHS radio) for any whales that were sighted within the 15nm path of the vessels (Appendix 2). All observations of northern right whales (*Eubalaena glacialis*) were documented and reported immediately to Georgia Department of Natural Resources, National Marine Fisheries Services, National Oceanic Atmospheric Administration, and Florida Fish and Wildlife Conservation Commission. The right whales sighted, appeared to be stationary, with little effects by the dredges presence. There were no incidents involving targeted species by either dredge during this maintenance dredging project.

The mean sea temperature during this period averaged eleven 11 ° Celsius with a fluctuation of +/- 1°C. Many pods of bottlenose dolphin (*Tursiops truncatus*) were spotted throughout the bridge watches and were noted in the daily reports. All species found in the screens were identified and recorded in daily report sheets to provide information for biological by-catch in the surrounding area (Appendix 3).

SUMMARY

On 10 January 2004, the hopper dredge *Eagle I* began dredging in Brunswick, Georgia along with the dredge *Stuyvesant* on 14 January 2004. Dredging was conducted for a total of 56 days with a total of 625 loads between the two dredges, *Eagle I* (508) and *Stuyvesant* (117). No sea turtle specimens or parts thereof were collected from the discharge boxes, thus there is no evidence that there was any injury or harassment involving targeted species.

Numerous northern right whales (*Eubalaena glacialis*) sightings occurred in and around the project area. All precautionary measures were taken to avoid contact with endangered species. All observations of northern right whales (*Eubalaena glacialis*) were documented and reported immediately to Georgia Department of Natural Resources, National Marine Fisheries Services, National Oceanic Atmospheric Administration, and Florida Fish and Wildlife Conservation Commission. These sightings did not cause any adverse affect to the project and there were no incidents involved.

Many pods of bottlenose dolphin (*Tursiops truncatus*) were spotted throughout the bridge watches and were noted in the daily reports along with the biological by-catch.

If there are any questions regarding this report please feel free to contact me at the number below.

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Appendix 1
Large Whale Observation Data

Appendix 2
Northern Right Whale Sightings In Florida/Southern Georgia Area

Appendix 3

Biological By-Catch

Biological By-Catch

The following is a list of species encountered during the dredging project at Brunswick Harbor, Georgia. These numbers are estimates provided by the daily load sheets, which is not necessarily accurate. They provide a good indicator of species relative abundance on the two dredges.

Spiny Dogfish- *Squalus acanthias* (4)
Sand dollars- *Echinarrhnius parma* (35)
Hard Clam- *Mercenaria mercenaria* (150)
Knobbed Whelk- *Busycon carica* (500)
Horseshoe Crab- *Limulus polyphemus* (150)
Sea Star- *Asteroidea* (7)
Channeled Whelk- *Busycon canaliculatum* (300)
Shark Eye- *Neverita duplicata* (25)
Lettered Olive- *Oliva sayana* (15)
Calico Scallop- *Argopecten gibbus* (25)
Moon Snail- *Polinices duplicatus* (40)
Hermit Crab- *Calcinus* (15)
Nurse Shark- *Ginglymostoma cirratum* (3)
Sea Squirt- *Subphylum Tunicata* (20)
Stargazer- *Uranoscopus y-graecum* (10)
Hard Coral- *Cnidaria* (15)
Whelk egg case (Knobbed Whelk and Channeled Whelk)- *Busycon carica*, *Busycon canaliculatum* (10)